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Sludge made into organic fertiliser

Solution cures wastewater headache

by Lu Feng

Converts heavy metal elements in sewage sludge into indissoluble carbonate

CHINA'S STATE-CONTROLLED Xiamen Water has co-developed a new technology with Huazhong University of Science and Technology to produce organic fertiliser out of city wastewater and sludge.

Xie Xiaoqing, senior engineer at Xiamen Water, says the large amount of sewage sludge produced during treatment of city wastewater has become an increasing headache for the company. "The sludge is rich in organic matters, it decays and produces a strong stench, and it pollutes the environment by being a hotbed for pests."

The common practice is to bury the sludge or burn it in a furnace. However, burial methods risk contaminating the surrounding environment by polluting the soil and underground water, and the burning practice is discouraged because of its high cost: 1000 yuan per ton (\$150) and the poisonous gas emitted during burning.

The core of the new technology is converting heavy metal elements in the sewage sludge into indissoluble carbonate by using phosphoric acid and heavy metals passivants and adding in tea residue during the process. The next step is fermenting the mixture for 12–15 days to kill pathogenic organisms and ascaris lumbricoides eggs. Finally, after dehydrating the sludge and adding effective microorganisms, the sludge can be turned into organic fertiliser.

The company says this new technology has passed the evaluations organized by Xiamen City's Science and Technology Bureau and will hopefully be promoted soon.